

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

0440/491

U5A49

ates
ent of
ire
al
ative

Service

ACS
Service Report
Number 20

Assessing Milk Handler Benefits

Handwritten signature



?

A

B

C



Assessing Milk Handler Benefits

John R. Mengel
Agricultural Economist

ACS Service Report No. 20

September 1988

CONTENTS

IDENTIFICATION OF ECONOMIC BENEFITS	3
QUANTIFIABLE ECONOMIC BENEFITS	6
Milk Pricing Programs	6
Volume pay prices and butterfat differentials	7
Component pricing	7
Quality premiums	8
Protein premiums	8
Volume premiums	9
Seasonal premiums	9
Return on Cooperative Investment	9
Revolved Equity	11
Raw Milk Hauling	11
Member Services	12
Insurance	13
Production Supplies	13
EVALUATION WORKSHEET	15
OTHER CONSIDERATIONS	20
Business Evaluation	20
Value of Guaranteed Payment	20
Value of a Guaranteed Market	20
Guaranteed Market Costs	20
Value/Cost to Producers	22
Other Benefits	23
APPENDIX A	24
APPENDIX B	28



Assessing Milk Handler Benefits

John R. Mengel

Agricultural Economist

One of the more important business decisions a milk producer makes is choosing a market. Depending on location of the farm, there may be from as few as two to perhaps a dozen handlers of milk from which to choose. The two major categories of handlers are cooperative and noncooperative organizations. In some respects these two groups are similar, but in many they differ. The most significant difference is that the ownership and control of a cooperative is in the hands of the producers who supply the cooperative with milk and invest in the cooperative business.

Within the cooperative group there are significant differences, also. Cooperatives are commonly divided into two groups—those that invest in processing facilities to market some or all of their members' milk and those that restrict their efforts to bargaining for price with other cooperative and noncooperative milk processors.

There are many factors and elements that a producer weighs when making this decision. Pay price, of course, is a major consideration, but it is certainly not the only one, and for some producers it may not be the most important. Business risk reduction, such as the assurance of a market or the assurance of a milk check, may be of higher priority to some producers. Others might place greater value on a handler, such as a cooperative, that not only markets their milk; but also represents their interests in associated business affairs.

As a producer evaluates the returns for milk offered by competing handlers, it is not as simple as just comparing monthly pay prices for milk. Pay prices may account for only a portion of the total economic benefit that a producer receives from a handler. Additional compensation in the form of premiums or subsidies may either raise a producer's revenue or reduce cost.

As a producer considers alternative handlers, all of the economic benefits offered by each should be objectively quantified.

Although competition among handlers in an area may lead to similarities in the types of compensation offered, the dollar value of a benefits package offered by a handler will likely differ among producers.

For instance, a producer marketing milk high in protein may find it advantageous to deliver to a handler paying a protein premium. In contrast, a producer whose deliveries are low in protein might gain a higher return by shipping to a handler paying only on the basis of volume and butterfat. A small or distant producer might find that delivering to a handler with a policy of subsidizing hauling might be advantageous.

Certain considerations, however, cannot be expressed in terms of dollars and cents. For instance, one feature offered by cooperatives defies quantification. That feature which substantially reduces business risk for a producer is the cooperative guarantee to market all member milk. Even if the value of such a guarantee could be ascribed, it would be ever changing with changing market conditions. At times, such a guarantee would be invaluable, while at other times have little or no value. Consideration of this guarantee, along with guaranteed milk checks, political activities and other producer representation must be weighed before a producer selects a market.

Finally, when deciding on a handler, a producer must consider a possible commitment of time and resources to marketing the product. Delivering milk to a noncooperative handler requires no commitment by the producer. If a cooperative market is chosen, however, there is frequently a financial commitment and an opportunity for personal commitment.

The first objective of this report is to develop a comprehensive list of economic benefits that may transfer to producers from handlers. The second is to develop a worksheet that can be used to evaluate the economic benefits expected from alternative milk handlers. The third is to set forth other considerations that should be weighed by producers when evaluating alternative milk handlers.

IDENTIFICATION OF ECONOMIC BENEFITS

A vast array of programs and services may be offered to producers by cooperative and noncooperative milk handlers. The choice of a milk handler should start with the identification of the combination of programs and services offered by each handler.

This comparative list must include not only those programs and services that can be given a dollar and cent value, but also those that have value that can not be quantified. When a value cannot be ascribed, the producer will need to make a value judgment.

To assist in this preliminary evaluation, a list of programs and services has been assembled. This list may not be all inclusive, but it should provide a start for meaningful comparison.

Comparative List of Programs and Services Provided by Alternative Milk Handlers

Handler Name

Programs and Services

[mark with (x) if provided]

Milk pricing:

Volume and butterfat pricing

Component pricing:

Protein basis

Nonfat solids basis

Protein premiums

Quality premiums

Seasonal premiums

Other premiums:

Yearend distribution of net income to producers

Equity requirements:

Per-unit capital retains

Retained patronage

Equity revolving period:

Less than 5 years

6 years

7 years

8 years

9 years

10 or more years

Base capital plan

Hauling costs:

Flat rate

Volume adjusted rate

Stop charge

Dues:

Flat charge

Charges tied to milk
volumes

Consultation services:

Farm management

Feeding management

Herd health

Other:

Market information and
statistics

Supplies:

Feed

Barn and milk house

Milking equipment

Other equipment

Butter, cheese, etc.

Insurance:

Life

Health

Automobile

Employee health

Liability

Fire

Business interruption

Guarantees:

Milk check

Market

Antibiotics program

Testing

Penalty for delivering
antibiotic milk

Payment for no-fault loss

Represents producers at
milk order hearings

Political action program

QUANTIFIABLE ECONOMIC BENEFITS

After identifying the programs and services offered by milk handlers, the next step is to quantify the benefits. Producers must consider much more than price when choosing a market.

In the case of a cooperative handler, the value of yearend distributions and nonprice benefits, such as services and supplies, must be quantified and added to the price of milk when determining total benefits.

Milk pricing programs may be complicated by the variety of formulas and premium programs. However, enough information is usually available to make fairly precise estimates of income from milk sales. Likewise, information should be available on recent yearend distributions and equity retain programs of cooperatives. Such information should be viewed for a 12-month period to ensure a fair comparison.

Nonprice benefits provided by a cooperative or noncooperative handler reduce the production costs of producers, and therefore helps them as directly as a higher price for milk. Nonprice benefits include savings on hauling, farm management and operation consultation, production inputs, and insurance. Such commodities and services are available from other suppliers; and therefore their costs are easy to compare.

Milk Pricing Programs

The most accessible figures for comparison are those associated with milk pricing by the handlers regardless of whether they are cooperative or noncooperative. Comparison, however, may be hindered by the competitively induced array of pay plans. Complicating factors include: (1) butterfat differentials, (2) quality premiums, (3) protein premiums, (4) component pricing, (4) volume premiums, and (5) seasonal premiums.

Handlers benefit by receiving milk of high quality and of high component content. They also benefit from dealing with large dairy operations rather than small ones. Premium programs enable handlers to reward producers who have contributed to the handlers' higher net incomes. There are instances, however, where such programs are not economically justified but have been instituted to meet competition. When this is the case and no additional monies are generated, the same pool of money is simply redivided among producers. As a result,

the general price level to all producers is often reduced by the amount necessary to generate the premium pool. When the general pay price level cannot be reduced because of competition, handler reserves or resources must be tapped, and that may impact on the financial stability of the handler.

Volume Pay Prices and Butterfat Differentials Pay prices and butterfat differentials generally are announced monthly. If such prices are regulated under Federal or State orders, they generally are comparable for milk containing 3.5 percent butterfat. Likewise, regulated butterfat differentials which adjust prices for milk containing more or less than 3.5 percent butterfat are usually comparable.

However, regulated milk prices are usually minimum prices, and not all milk prices are regulated. Also, cooperatives have the privilege of reblending prices that are paid to them for milk when they pay producers. Therefore, for a producer to make a valid comparison of handlers, milk prices and butterfat differentials actually paid by the handlers should be obtained.

The ideal period of comparison is 1 year. It is not satisfactory to multiply 12 months of production by a simple average monthly price when determining annual cash receipts from milk marketings. The pay price for each month should be adjusted for the test of the producer's deliveries and multiplied by the deliveries for that month. This procedure should be repeated for 12 months worth of data, and the results added to determine annual cash receipts.

Seasonality in pricing patterns associated with seasonality in deliveries and butterfat content can affect the annual cash receipts for milk marketings. Also, the producer should make adjustments in the monthly volumes when future delivery patterns will be different from those in the past.

Component Pricing Component pricing is a program that pays a producer according to the combination of milk components delivered to the market. Such programs recognize that solids other than butterfat have a specific market value. Component pricing plans generally price butterfat, protein or total nonfat solids, and occasionally the fluid carrier.

Although a number of component pricing plans are used in the country, only two are publicly sanctioned. One is administered by California and the other by the Great Basin Federal Milk Marketing Order that covers Utah and parts of Nevada, Idaho, and Wyoming.

The California plan prices butterfat, nonfat solids, and the fluid carrier delivered to the market by producers. The Great Basin plan prices butterfat and protein in soft and hard manufactured products (Federal Order classes II and III), and uses the same components when pricing milk to producers. Class I (milk that is bottled for fluid consumption) in the Great Basin is still priced on a volume and butterfat basis.

Most industry-operated component pricing plans only pay premiums for additional solids, usually protein. Few such programs penalize producers for shipping milk low in specific solids. In this respect, such industry plans are often identical with the protein premium programs described below. Some programs, however, pay for total nonfat solids rather than just protein, and relate payments to actual solids delivered to market.

For a producer to properly evaluate expected milk income under a component pricing program, it would be necessary to know the component tests of the milk for a representative period of time, preferably a year.

Quality Premiums Quality premiums are paid by many milk handlers when raw milk received contains low bacteria and somatic cell counts. These quality programs usually require that the milk be free of antibiotics and have no added water. Handlers generally publish a schedule of premiums they will pay for increased quality of raw milk. Until recently, only premiums were paid. Now some quality programs are including deductions on milk of lower quality.

Protein Premiums Protein premiums when paid generally are combined with quality programs. In most cases, the milk must meet at least a minimum quality standard to be eligible for a protein premium payment. Primarily associated with cheese manufacturing operations, these protein payments at least recognize the additional cheese yields resulting from milk containing higher levels of protein. Currently, few deductions are made for low protein milk.

Volume Premiums Volume premiums have become popular as a means of recognizing the benefits of purchasing milk from large dairy operations. Generally, the milk handler publishes a schedule of premiums it will pay per hundredweight for large volume deliveries. Volume premiums also can take the form of reduced hauling rates for larger producers.

Seasonal Premiums Some cooperatives have adopted seasonal pricing plans in an effort to even out the seasonality of milk deliveries. Such premiums may be in addition to seasonal price adjustments required under some Federal milk orders. These plans reduce costs by improving the balance between supply and demand during the year.

Most of these plans involve a production base that is used to adjust pay prices during certain periods of the year. Money may be withheld during the flush production months and returned during months of lower production. To determine the impact a seasonal pricing plan has on milk income, a producer must evaluate the effects for a 12-month period.

For the past several years, it has been the practice among some cooperatives in the upper Midwest to pay a premium on deliveries of milk during September, October, and November. Initially started by one cooperative, competition among handlers in the area quickly caused the spread of such seasonal premium programs. Such premiums should not be overlooked in any evaluation.

Return on Cooperative Investment

Dairy cooperatives generally return some of their net income to their producer members at the end of the fiscal year. Such distributions are called patronage distributions and are made in proportion to the amount of milk marketed by the producer during the year. Distributions generally are in the combined form of cash and noncash equity certificates. Cash distributions commonly are known as 13th checks. Federal tax laws require that a minimum of 20 percent of a cooperative's net income distribution to the membership be in cash if it is to be taxable to individual producers rather than to the cooperative.

A cooperative also may make a cash distribution designated as a divi-

dend on the investment a producer has in the cooperative. The Capper-Volstead Act limits return on investment to 8 percent unless the cooperative is governed on a one-member, one-vote basis. Generally, the bylaws of dairy cooperatives provide for one vote per member; and, therefore, returns on investment are not limited. However, dairy cooperatives rarely pay dividends on capital invested, opting instead to return earnings in the form of patronage refunds.

A producer's investment in a cooperative generally comes by way of three sources: noncash refunds of certificates of equity, per-unit capital retains, or initial investment requirements. Choosing a cooperative with an equity requirement as a market should be a long-term decision since capital is tied up and benefits accrue over time.

Investment of capital should generate income or be recognized as a cost. To evaluate the investment a producer has in a cooperative and the contribution such investment makes to a producers well-being, alternative uses of such money should be considered. There are two methods of evaluating an investment—expected yearly returns or present value of the future payments.

Since dairy cooperatives rarely distribute earnings based on investment or pay interest, the present value method is the most useful method to evaluate producer benefits. A present value formula determines how much 1 dollar is worth today if it will not be paid until some future time. When a producer receives a certificate of equity from a cooperative, it is a promise to pay the face amount of the certificate at some future time. Revolving equity back to producers is left to the discretion of the board of directors. However, for the purpose of estimating producer benefits, the producer should find out what the normal practice of the cooperative has been in terms of revolving equity.

The other piece of information needed is the interest rate available on alternative investments. If money could be invested at 10 percent, a noncash certificate of equity worth \$1,000 in 5 years would actually be worth \$621 in cash today.

Taxes on noncash distributions should be considered. For tax purposes, the face value of a certificate is assumed received in the current year. If an equity revolving period is exceptionally long, the

tax on the face value of a certificate may approach the current cash value. Also, if the producer's tax bracket exceeds the percent of patronage refunded in cash, the producer will need cash from another source to pay the tax.

Revolved Equity

Another cash distribution made at yearend is a revolvment of equity capital. This distribution reflects income earned or capital retained during an earlier period by distribution of equity certificates. The length of equity revolving periods vary among cooperatives. It is the policy of most to revolve equity as quickly as possible to keep control in the hands of current members.

Raw Milk Hauling

The cost of hauling raw milk from the farm to the point of first receipt can be significant. A USDA study on milk production costs determined that in 1986, an average of 33 cents per hundredweight was spent on hauling milk to market. This was 3.5 percent of the estimated average cash expenditure for producing 100 pounds of milk.

In some areas, producers commonly contract with milk haulers and pay for the service. In other areas, various arrangements exist between producers and milk handlers to share the costs of hauling. Some handlers use hauling subsidies as a competitive practice to attract producers. If these subsidies are graduated according to volume, the beneficiaries are the producers with the larger volume deliveries.

The actual benefit of hauling subsidies to producers as a group depends upon the type of handler. If the handler is a noncooperative handler, hauling subsidies may well add to the economic benefit of producers. However, when the handler is a cooperative, any portion of the hauling cost that is absorbed reduces the pool of money available to pay producers for milk.

A producer seeking to determine the impact of various milk hauling arrangements should calculate the total annual cost of hauling under each offered arrangement.

Member Services

A full range of services may be provided by either cooperative and noncooperative milk handlers.

Field service must be considered when evaluating alternative milk handlers. Field service is a broad term that includes efforts to improve productivity, product quality, and income of the dairy farm. The ratio of producers to field staff may vary significantly among handlers, thus affecting the availability of such services. In some cases, field staffers are specialists in certain areas (quality, feeding, finance, etc.) and are available to producers with specific problems. Some handlers provide free field service; others provide some free field service, but may charge after a certain number of visits or for certain types of field assistance.

Some cooperatives offer considerable service through their field staff. Herd health, feeding programs, business management, sanitation, and milk quality are some of the areas in which cooperative field staff may provide information, education, and assistance. The value of such services are hard to assess since many of these services are not available from other sources.

Cooperatives also keep their members informed on numerous areas of interest through monthly newsletters and/or magazines. General marketing information, statistics, and economic outlooks provide producers with input necessary for business decisions. The value of this service, as with other services, must be measured by the cost of acquiring the service from another source.

Some cooperatives collect dues to help cover costs of member services. Dues are usually charged based on the hundredweight of milk marketed, although some cooperatives have instituted an additional flat charge to cover member fixed expenses. Other cooperatives cover all expenses with funds from the general revenue pool in lieu of collecting dues.

Noncooperative producers whose marketings are regulated under a Federal milk order are required to pay market assessments for that order. Such payments help cover the costs of weighing and testing

milk, and providing market information.

Market service is a difficult area on which to place a precise cost or value. How much service a producer will use during a year may well depend upon the ease of obtaining it. A service that is readily available at little or no cost will more than likely be used. When evaluating alternative handlers, a common level of service should be used and valued at cost.

Insurance

Producers delivering milk to a cooperative may have access to numerous types of insurance at reduced cost. Noncooperative handlers usually do not provide insurance.

Since cooperatives represent groups of dairy farm families, they have been able to provide group health, life, hazard, or liability insurance at costs lower than producers could obtain individually.

Some cooperatives also provide insurance to producers that protects them against certain business interruptions and hazards. The degree of reimbursement and the covered hazards may vary significantly among cooperatives. Losses in milk deliveries resulting from fire, weather, or other such hazard may be at least partially reimbursable to members of some cooperatives. Some cooperatives have antibiotic programs that reimburse producers for losses for contaminated milk. When evaluating alternative handlers, the cost of a comparable package of insurance coverage should be included for each.

Production Supplies

Many everyday production supplies are made available to members by cooperatives. These items are purchased in bulk by the cooperatives and often are conveniently distributed to the members via milk haulers.

In addition, some cooperatives provide longer-life production items, such as water heaters and milking machines. Some cooperatives supply such items as feed, seed, and fertilizer. Producers may save through reduced costs of inputs or through the return of savings at the end of the year if revenue from this service exceeds the cost.

Noncooperative handlers generally do not offer supplies to producers. Therefore, to equalize a comparison of handlers, a cost of supplies from an independent source must be included. Alternatively, an annual savings on supplies may be used in the comparison.

EVALUATION WORKSHEET

After having identified the quantifiable benefits that may accrue to a producer marketing milk through various handlers in the market, it is necessary to formulate a standard method of evaluating these benefits.

Producers must determine the impacts of the various programs offered by handlers to distribute the milk marketing revenue. Milk prices and butterfat differentials, premium programs, hauling subsidizes, free services, etc., all affect the distribution of marketing revenues. While price and butterfat differentials may be partially fixed by government regulation, other benefits are the results of policies established by milk handlers.

The following worksheet presents a systematic method that can be used to evaluate cooperative and noncooperative handlers of milk in terms of economic benefits returned to a producer. One worksheet should be completed for each alternative milk handler. Line 33 on the worksheet provides a reasonable estimate of the economic benefits that would accrue from a handler during a designated delivery period. Comparing line 33 for all worksheets completed shows how handlers relate to one another in providing economic benefits.

NOTE: THE CHOICE OF A HANDLER SHOULD NOT BE MADE SOLELY ON THE RESULTS OF THIS COMPARISON. CONSIDERATION MUST BE GIVEN TO BENEFITS THAT CANNOT BE QUANTIFIED INTO DOLLARS AND CENTS. SEE PAGE 34.

Comparing Benefits Offered by Milk Handlers

Handler Name: _____

Calendar Year: _____ or 12 months beginning _____ ,198
and ending _____ ,198 .

*Annual cash receipts based on volume and butterfat pricing:
(see Appendix A worksheets)*

- 1. 12-month accumulation of adjusted milk prices
times monthly deliveries\$ _____

*Or alternatively, based on component pricing:
(see Appendix A worksheets)*

- 2. 12-month accumulation of butterfat prices times
monthly deliveries\$ _____
- 3. 12-month accumulation of protein or nonfat solids
prices times monthly deliveries\$ _____
- 4. 12-month accumulation of fluid carrier prices
times monthly deliveries\$ _____
- 5. Total (sum lines 2, 3 and 4)\$ _____

Adjustments per 100 pounds:

- 6. Protein premium\$ _____
- 7. Volume premium\$ _____
- 8. Quality premium\$ _____
- 9. Seasonal premium, 12-month average\$ _____
- 10. Other premiums\$ _____
- 11. Total\$ _____

12. Increase in annual cash receipts due to premiums
(line 11 times annual deliveries of milk)\$_____

13. Annual cash receipts for milk marketed
(line 1 or line 5 plus line 12)\$_____

Return on Equity/Yearend (12-month) distributions:

14. Most recent patronage distribution in cash per
hundredweight times your annual marketings (including
cash designated as dividends, but excluding equity
being revolved from an earlier period)\$_____

15. Most recent distribution of equity certificates per
hundredweight times your annual marketings\$_____

16. Per-unit capital retains times annual marketings\$_____

17. Total annual investment
(line 15 + line 16)\$_____

18. Present value of equity investment given the
alternative interest rate and equity revolving
period (line 17 times appropriate value in
APPENDIX B table)\$_____

19. Total value of return on investment
(line 14 + line 18)\$_____

Raw milk hauling cost:

20. Average rate per hundredweight (including any
volume discounts) for hauling raw milk from your
farm to the point of first receipt times your
annual marketings\$(_____)

21. Hauling stop charge times the estimated number
of stops per year\$ (_____)

22. Total annual hauling cost
(sum line 20 and line 21)\$ (_____)

*Service costs: (If the milk handler does not provide
any of the following, insert the annual cost of
purchase from an independent provider.)*

23. Cost of consultation services (farm management,
feeding programs, herd health, etc.) used annually ...\$ (_____)

24. Annual cost of market information and statistics\$ (_____)

25. Annual cost of cooperative dues or Federal
or State market order assessment\$ (_____)

26. Total annual cost of services needed
(sum lines 23, 24 and 25)\$ (_____)

*Insurance cost: (If the milk handler does not provide
any of the following, insert the annual cost of
purchase from an independent provider.)*

27. Annual cost of personal and family insurance
Life\$ (_____)
Health\$ (_____)
Homeowner's\$ (_____)
Automobile\$ (_____)

28. Annual cost of business insurance
Employee health\$ (_____)
Liability\$ (_____)
Fire, etc\$ (_____)
Business interruption\$ (_____)

29. Total insurance cost per year
(sum all entries of lines 27 and 28)\$(_____)

Other benefits and costs: (If the milk handler does not provide any of the following, insert the annual cost of purchase from an independent provider.)

30. Annual cost of production supplies and equipment available from milk handlers (feed, barn supplies, milking equipment, etc.)\$(_____)

31. Annual cost of other benefits
a. _____\$(_____)
b. _____\$(_____)
c. _____\$(_____)

32. Total of other annual benefits
(sum line 30 and all entries of line 31)\$(_____)

Accumulated benefits:

33. TOTAL ANNUAL QUANTIFIABLE BENEFITS FROM MARKETING MILK THROUGH THIS HANDLER
(sum lines 13, 19, 22, 26, 29, and 32)\$_____

OTHER CONSIDERATIONS

Although the quantifiable results determined by the worksheet provide a rationale for choosing one milk handler over another, there are other considerations that any producer should make before making a final selection.

Business Evaluation

Each alternative milk handler should be evaluated as a business organization. The financial statements, primarily the balance sheets and the income statements, for several years should be examined to ensure that the business is in a sound financial position and able to meet its obligations. Field representatives of potential handlers should be willing to make such information available. In addition, producers should check out the reputation of potential handlers by asking neighbors and others in the community about them.

Value of Guaranteed Payment

All cooperatives guarantee payment for all member milk marketed through the cooperative even if the ultimate purchaser defaults on payment. This guarantee stems from an agreement among members to share certain losses rather than having those losses being borne by a few. The guarantee of payment is best fulfilled by a healthy cooperative.

Value of Guaranteed Market

One of the features of a dairy marketing cooperative that separates it from other milk handlers is the guaranteed market promise. What this says is that all of the risk of finding a market for the producer's milk has been transferred to the cooperative.

This risk transfer from the producer to the cooperative does not come without cost, at least during some periods. The cooperative promise is to market all milk delivered to it regardless of cost. In return, members agree to share any marketing losses.

Guaranteed Market Costs The guarantee of a market for all milk produced by its members is greatly affected by other policies of the cooperative. Membership policy impacts the marketing costs of cooper-

atives by determining the source and quantity of milk that will need to be marketed. Some cooperatives have an open membership policy that sets no restrictions on the number of members, their location, or their production. Others, to reduce marketing costs, limit membership and will not increase it unless they have a market for additional milk.

Another policy that affects marketing costs is the decision to be either a bargaining or an operating cooperative. Bargaining cooperatives market all of their member milk through the facilities of others. Operating cooperatives finance their own facilities and market at least a portion of their members milk through those facilities. Generally, the first facilities financed by a cooperative are those that can be used to balance the needs of its customers. A butter-nonfat dry milk or cheese manufacturing plant is a well-suited balancing plant.

The risk to a cooperative of ensuring a market for its members' milk is limited by the Federal Dairy Price Support Program. Under this program the government will buy all butter, cheese, and nonfat dry milk that cannot be sold commercially at or above announced prices. This makes it easier for a cooperative to guarantee its members a market because the cooperative's losses can be limited.

The decision on ownership of processing facilities can have an impact on the losses experienced from guaranteeing a market. Bargaining cooperatives may have the greatest losses from guaranteeing a market during periods of high surplus. When milk is plentiful, bargaining cooperatives may have to sell some of their supply at distressed prices and/or move milk long distances to fulfill the market guarantee.

On the other hand, operating cooperatives may find their per-unit cost decreased during surplus periods. When supplies are plentiful, operating cooperatives can operate their plants more efficiently and even buy distressed milk from others and return the marketing profits to their own members. For cooperatives with plants, their greatest losses may occur when milk supplies are in balance or short of demand. At these times, the operating cooperatives may not have enough milk available to meet their commitments to their customers and still run their plants efficiently. The membership must carry the cost of maintaining idle processing facilities.

Value/Cost to Producers The value of a guaranteed market to an individual producer is difficult to quantify because it is not constant over time. Moreover, it is not the same among markets or among the producers of a market at any given period of time.

A guaranteed market has no value or limited value during periods of tight supply and demand conditions. But it has great value during periods of surplus. When dairy product demand relative to supply is tight, as in the fall months, and handlers are competing aggressively for milk, marketing is not a concern of producers. However, during the spring flush production months, a guaranteed market may be of significant value for some producers.

The value of a guaranteed market changes with the general surplus situation. As milk production increased during the first half of the 1980's, the value of a guaranteed market increased. More than a few producers lost their markets during that period. In some areas of the country, surplus existed even during the normal shortfall months. Little milk was actually dumped, but many loads of milk had to travel many miles at great expense in order to be processed. Cooperative members shared these costs, saving a number of individual members from financial ruin.

The value of a guaranteed market differed among markets and regions during the early 1980's. The primary factor causing these differences was the availability of manufacturing facilities in these areas. In areas such as the West Coast, primarily California where milk production increases were exceeding those in other parts of the country, the manufacturing facilities could not handle all of the excess. In the Southeast, traditionally a fluid deficit area, facilities built to balance fluid needs were not sufficient to manufacture all of the additional supply. As a result, some milk from these areas had to move long distances at great expense to be processed. In the upper Midwest, however, where milk manufacturing is a large and traditional industry, facilities were available, and through intense use were able to manufacture all of the additional local milk plus some surplus from other areas. Therefore, the value of a guaranteed market was greater to producers in the West and Southeast than it was to producers in the upper Midwest.

Finally, the value of a guaranteed market can differ among the

producers within the same area. A producer with a large herd who lives on a hard surface road and whose deliveries of milk are of consistent high quality has little concern about a milk market. However, a producer with a small milking herd, or one who does not live on a hard surface road or one whose deliveries are not consistently high in quality, should consider the guarantee of a market a valuable feature of a milk handler.

In evaluating the differences among milk handlers, the producer must consider the economic benefits determined by the worksheet and the value of a guaranteed market. In assigning such a value, the producer must consider (1) the long-term outlook for milk production locally and nationally; (2) the difficulty that producers in the area have had in marketing milk during past surplus periods; and (3) location, ability to produce, and other factors that might affect the producer's status as a preferred supplier with milk handlers.

Other Benefits

There appear to be certain benefits to producers that are the result of strong, active, and viable cooperative associations. These benefits, which may be difficult or impossible to quantify in dollars, generally accrue to all producers; but they would likely accrue to none without the existence of cooperatives.

Some cooperatives are active in the political arenas from the local to the national level. The ability of a cooperative to achieve its political goals is based on its representation of a sizable group of constituents and the willingness of the membership to be active politically. If a producer believes that political action has an important impact on the dairy business, the producer may wish to belong to an organization that supports similar views.

Dairy cooperatives also represent the interests of producers in regulatory matters. By testifying at milk order hearings concerning the marketing of milk, cooperatives make known to regulators the way in which regulations affect producers. Cooperatives also take the lead in assuring dairy product quality, limiting imports, and protecting milk markets in other ways. These actions benefit producers in ways that can not be readily quantified.

APPENDIX A

(Worksheets)

Worksheet for Calculating Annual Cash Receipts for Milk Based on Volume and Butterfat Pricing

Month	Handler price 3.5 percent butterfat milk *	Butter- fat differ- ential	Price adjusted for butter- fat of milk	Milk deliveries	Cash receipts (adjusted price x deliveries)
		<i>Dollars</i>		<i>Hundred- weight</i>	<i>Dollars</i>
Jan	_____	_____	_____	_____	_____
Feb	_____	_____	_____	_____	_____
Mar	_____	_____	_____	_____	_____
Apr	_____	_____	_____	_____	_____
May	_____	_____	_____	_____	_____
Jun	_____	_____	_____	_____	_____
Jul	_____	_____	_____	_____	_____
Aug	_____	_____	_____	_____	_____
Sep	_____	_____	_____	_____	_____
Oct	_____	_____	_____	_____	_____
Nov	_____	_____	_____	_____	_____
Dec	_____	_____	_____	_____	_____
				TOTAL	_____

*Price per 100-pounds should exclude per-unit capital retains.

Worksheet for Calculating Annual Cash Receipts for Butterfat Based on Component Pricing

Month	Handler price for butterfat	Butterfat deliveries	Cash receipts (price x deliveries)
	<i>Dollars</i>	<i>Pounds</i>	<i>Dollars</i>
Jan	_____	_____	_____
Feb	_____	_____	_____
Mar	_____	_____	_____
Apr	_____	_____	_____
May	_____	_____	_____
Jun	_____	_____	_____
Jul	_____	_____	_____
Aug	_____	_____	_____
Sep	_____	_____	_____
Oct	_____	_____	_____
Nov	_____	_____	_____
Dec	_____	_____	_____
		TOTAL	_____

Worksheet for Calculating Annual Cash Receipts for Protein or Nonfat Solids Based on Component Pricing

Month	Handler price for protein or nonfat solids	Protein or nonfat solids deliveries	Cash receipts (price x deliveries)
	<i>Dollars</i>	<i>Pounds</i>	<i>Dollars</i>
Jan	_____	_____	_____
Feb	_____	_____	_____
Mar	_____	_____	_____
Apr	_____	_____	_____
May	_____	_____	_____
Jun	_____	_____	_____
Jul	_____	_____	_____
Aug	_____	_____	_____
Sep	_____	_____	_____
Oct	_____	_____	_____
Nov	_____	_____	_____
Dec	_____	_____	_____
		TOTAL	_____

**Worksheet for Calculating Annual Cash Receipts for
Fluid Carrier Based on Component Pricing**

Month	Handler price for fluid carrier	Fluid carrier deliveries	Cash receipts (price x deliveries)
	<i>Dollars</i>	<i>Pounds</i>	<i>Dollars</i>
Jan	_____	_____	_____
Feb	_____	_____	_____
Mar	_____	_____	_____
Apr	_____	_____	_____
May	_____	_____	_____
Jun	_____	_____	_____
Jul	_____	_____	_____
Aug	_____	_____	_____
Sep	_____	_____	_____
Oct	_____	_____	_____
Nov	_____	_____	_____
Dec	_____	_____	_____
		TOTAL	_____

APPENDIX B

Present Value:

How Much \$1.00 at a Future Date is Worth Today

Year	6%	8%	10%	12%	14%	16%	18%
1	.943	.926	.909	.893	.877	.862	.847
2	.890	.857	.826	.797	.769	.743	.718
3	.840	.794	.751	.712	.675	.641	.609
4	.792	.735	.683	.636	.592	.552	.516
5	.747	.681	.621	.567	.519	.476	.437
6	.705	.630	.564	.507	.456	.410	.370
7	.665	.583	.513	.452	.400	.354	.314
8	.627	.540	.467	.404	.351	.305	.266
9	.592	.500	.424	.361	.308	.263	.225
10	.558	.463	.386	.322	.270	.227	.191
11	.527	.429	.350	.287	.237	.195	.162
12	.497	.397	.319	.257	.208	.168	.137
13	.469	.368	.290	.229	.182	.145	.116
14	.442	.340	.263	.205	.160	.125	.099
15	.417	.315	.239	.183	.140	.108	.084
16	.394	.292	.218	.163	.123	.093	.071
17	.371	.270	.198	.146	.108	.080	.060
18	.350	.250	.180	.130	.095	.069	.051
19	.331	.232	.164	.116	.083	.060	.043
20	.312	.215	.149	.104	.073	.051	.037
21	.294	.199	.135	.093	.064	.044	.031
22	.278	.184	.123	.083	.056	.038	.026
23	.262	.170	.112	.074	.049	.033	.022
24	.247	.158	.102	.066	.043	.028	.019
25	.233	.146	.092	.059	.038	.024	.016
26	.220	.135	.084	.053	.033	.021	.014
27	.207	.125	.076	.047	.029	.018	.011
28	.196	.116	.069	.042	.026	.016	.010
29	.185	.107	.063	.037	.022	.014	.008
30	.174	.099	.057	.033	.020	.012	.007





U.S. Department of Agriculture Agricultural Cooperative Service

Post Office Box 96576
Washington, D.C. 20090-6576

Agricultural Cooperative Service (ACS) provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The agency (1) helps farmers and other rural residents develop cooperatives to obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs.

ACS publishes research and educational materials and issues Farmer Cooperatives magazine. All programs and activities are conducted on a nondiscriminatory basis, without regard to race, creed, color, sex, age, handicap, or national origin.
